INFORMATION AND COMMUNICATION TECHNOLOGY FOR DEVELOPMENT: NIGERIA DEVELOMENT STRATEGY

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Introduction

There is a general consensus among scholars, captains of industries and policy makers that information and communication technology (ICT) is a major engine of growth that is transforming nations more than ever before. It is further agreed that the concept of information society or knowledge economy derives its origin from the impact of ICT on the society. This state of affair has been succinctly captured by Gauslain and others (2006) when they said, "a vibrant and competitive information and communication sector is a prerequisite for developing information societies". The import of this is that a nation that genuinely invests in ICT is aspiring to belong to the global information society where competitiveness based on skills; ingenuity and good investment climate hold the sway. As a matter of fact, there is a strong correlation between ICT utilization and economic development. For instance, el Rufai (1998) estimated the number of personal computers in the country to be about 500,000 with most of the systems being in the service industry where productivity as at then was approaching optimal level. In recent time the World Bank (2006) statistics show that for every 1000 Nigerians six (6) have personal computers while seven (7) out of every 1000 have access to or use the Internet. This is far behind South Africa where 88 out of 1000 people have personal computers while 81 out of the same figure have access to or use the Internet. The same World Bank source reported further that 24 out of every 1000 Ghanaians have access to the Internet. Generally, ICT utilization has been known to bring about economic development and growth in general and more importantly by reducing poverty level through job creation and fostering of political and socio-economic integration at national and regional levels (Guislain, 2006, Christine, 2006). To harness and sustain these benefits, which by nature

are incremental, is underscored by the level of commitment of the political class and bureaucrats to initiate and implement ICT related policy that addresses the issues of infrastructure, accessibility, investment, diffusion and use. These parameters are yardsticks for assessing the level of ICT development in any country. It is perhaps the realization of the importance of ICT as an engine of growth that prompted the Federal Government in 2002 to formulate the National Information Technology Policy (NITP) as a strategy to develop the ICT sector of the economy. The implementation of the policy is the responsibility of the National Information Technology Development Agency, which was established by an Act of 2007. The objective of this presentation therefore is to discuss the country's strategy at developing ICT adoption in the country. The National Information technology Development Agency and the extent to which it has implemented the National Information Technology Policy provide the framework for this discussion. The discussion places emphasis on institutional framework or enabling environment, infrastructure, and the issue of policy linkage.

Conceptualization

The idea of Information and Communication Technology lacks common or acceptable standard definition. The many definitions of the concept are as reflective of writers' background as much as the context of their writings. It suffices to say therefore that ICT is as much a process as it is a tool. As a process, it is the application of tools to the management (gathering, processing, storage, retrieval, transmission and delivery) of information. This conceptualization emphasizes the importance of ability and skill to utilize the technology to achieve pre-determined goals and objectives. As a tool, it means the totality of those instruments that are utilized in the management of information. In

this context, the concept takes the plural (Information and Communication Technologies or ICTs) form, which is the case with the write up of this Study Group in page 2. In general terms, elementary tools like the pen, papers, artifacts and sophisticated pieces of technology like computers, scanner, camera, storage device, radio, television, telephones, fax machine, telecommunication satellite, software, etc. are all central to the management of information. It is important to emphasize that the definition of ICT is very fluid as new products and services are daily emerging and converging. In contemporary information society, however, the notion of ICT is often restricted to all electronic hardware and software that are used in the management of information, which is often taken-for-granted in the development process of the nation. Both information and ICTs are pervasive phenomena that have relevance in all sectors of any economy.

It is important to observe that ICTs share the same degree of importance with land and capital as resources in the development process of any nation. The adoption and utilization of ICT is in the first instance capital intensive but with very high returns in the form of high productivity and efficient service delivery. These attributes perhaps explain why nations have continued to evolve strategies in the form policy framework to develop the sector. As observed by Guislain and others (2006:3) "a vibrant and competitive information and communication sector is a pre-requisite for developing information societies". Nigeria cannot afford not to belong to the world information society.

Another concept that is relevant to this discussion is public policy. In its ordinary sense public policy can be described as government roadmap for resolving identified problems. For the sake of this exercise however, the definition of public policy "as a relatively stable, purposive course of action followed by an actor or set of actors in

dealing with a problem or matter of concern" (Anderson, 2006:6) is adopted. More often than not government officials are very quick at making public pronouncements that can go as statements of intents or decisions but which are often and erroneously referred to as public policies. For instance government decision to assist public servants to own personal computers has been described as a government policy. As laudable as the idea may be, it is certainly not a policy but a decision. By nature, a policy consists of the description of the problem to be resolved, how it will be resolved, what are the needed or available resources, what is the relationship of the policy to other existing related policies, and the expected policy goals etc. Unlike decision, which by nature is reactive, public policy is proactive. Above all, through a process of iteration or fine-tuning, public policy continues to gather critical mass as it unfolds.

ICTs and National Development

Studies have shown that there is a degree of correlation between ICT adoption/utilization and national development (Oshikoya and Hussain 2004). In other words, the application of ICTs has not only brought about rapid economic transformation to nations but has also changed for good old ways of doing things. Through deliberate strategies, nations that have adopted ICT utilization have been known to accelerate their economic development and growth by carving out niches for themselves, and modernization of their production systems, all of which have resulted in general economy of scale and competitiveness of their products and services in the international market. Examples of countries in this category are India, Singapore, and Malaysia, which have all carved out a niche for themselves in software development. On the other hand, countries like Japan, China, Finland, and South Korea, etc have since become giants in hardware production. The

USA and some countries in Europe enjoy full economy of scale in the production of both hard and software. In Nigeria today, the NITP as a strategy does not show which direction the country is heading to with regard to area of specialization. The NITP seems poised to make Nigeria an 'expert nation' in all aspects of ICT development. This tendency amounts to stooping to touch the crest of a mountain as ICT development spans the entire continuum.

On the other hand, countries that are unable to avail themselves of the opportunities presented by ICT suffer from cumulative socio-economic retardation. The discrepancy between countries that have been able to adopt ICTs and those that have not has now engendered the categorization of countries into digitally advanced and less advanced nations. The void between the two categories of nations is represented by the fashionable and catchy phrase of "digital divide". It is interesting to note however that digitally advanced nations are ever advancing forward through huge investment in ICT related Research and Development (R&D), while most countries on the lower side of the digital divide are equally striving through strategy formulation to improve their level of ICT diffusion and accessibility. Nigeria is one of such nations, which in 2002 enunciated the National Information Technology Policy (NITP) as a strategy to develop its ICT potentials. The National Information Technology Development Agency (NITDA) was established to implement the policy.

Enabling Environment

With the enunciation of NITP Government took the first step of creating the enabling environment for the formal take-off of ICT development in the country. The Agency to implement the policy however did not formally come into existence until 2007 when the

Act establishing the body came into being. The commencement of operations and activities by the Agency before its formal existence was in one's view a strategically faulty beginning, which slowed down the implementation of the policy in the country. This technical error can largely be attributed to the National Information Technology Fund failure to take off early enough as initially envisaged. As a strategy, one would naturally expect that the necessary legal instrument establishing the Agency would have been in place before commencement of operations so that budgetary allocation to the Agency would be legally acceptable. This error is an index of how reactive the policy making environment of the nation can be. It is a classical case of a decision becoming a policy.

Another probable flaw in the implementation of NITP in the country is the putting of NITDA under the supervision of the Federal Ministry of Science and Technology (FMST). The political vicissitude of the Ministry is well known, as there has never been any Ministry that has suffered abrogation more than it. This worry is further heightened by the tendency for the bureaucracy to talk of line or main Ministries. By this bureaucratic classification FMST is not a line ministry yet the work of an Agency under it is expected to have direct bearing on policy implementations in the main Ministries of Education, Health, Agriculture, Communications, Industry etc. It is important to emphasize the fact that the mandate of NITDA is expansive while ICT application is pervasive. For instance to what extent can NITDA influence curriculum development in the Ministry of Education or how can the Agency influence the incorporation of ICT in the medical and agricultural training programmes of the nation? These questions are against the backdrop of some of the NITP clauses with regard to the application ICT for

education, health, agriculture, defence and security. One however notes the fact that in addition to FMST, the Ministries of Communication and Education are to be represented on the Governing Board of NITDA. One may as well ask the extent to which this representation will ensure acceptance of the Agency by other Ministries? Answers to this question are crucial for the successful implementation of the policy. A situation in which inter ministerial politics blocks out cooperation or every ministry sees itself as an archipelago of its own is not healthy for the much needed collaboration for the implementation of NITP or any policy for that matter. More fundamentally, the implementation of NITP is envisaged to be private sector driven. Yet the Federal Ministry of Industry, which is the link to the private sector, has no say in the affairs of the Agency by way of representation on its Governing Board.

National Information Infrastructure

Successful deployment and utilization of ICTs in any environment is a function of availability of National Information Infrastructure (NII). This infrastructure consists of communication network, broadband network, hardware and software resources, national information systems, electricity etc. In section 6 of the policy document, NITDA is empowered to "provide guidelines to facilitate the establishment and maintenance of appropriate infrastructure for information technology and systems application and development". This clause as well as many others in the policy documents are too general and ambiguous without clear-cut explanation as to which infrastructure the guidelines are meant for. What is however known is that the provision of national information infrastructure essentially belongs to the domain of government going by the security nature of most of the infrastructure. This is not to say that the private sector cannot participate in the

provision of some of them. After all the provision of NII is a multidimensional issue that is at the heart of any ICT related policy. In other words, policy activities and direction should be explicit enough so that every stakeholder is aware of his or her responsibility. The essence of this requirement has been succinctly captured by Wilson 111 (1997:4) when he describes the issue of infrastructure for ICT development as an "inchoate, multidimensional phenomenon, a turbulent and controversial mix of public policy, corporate, strategies, hardware and software that shapes the way consumers and citizens use information and communications". The complexity of the issues involved are enormous and can only be addressed collectively by all stakeholders at the macro-level with the Federal Government playing a dominant role.

NITP and Others

The development of any nation depends on how well all the sectoral and programme policies are collectively articulated and implemented. In essence, no policy no matter how well articulated can afford to be isolated from the rest policies and development goals of the nation. This is so because the overall development of the country is a product of an intricate close knit of policies.

In the light of this postulation, the National Information Technology Policy seems to be a policy of its own as there are no explicit modalities for linking it with the rest public policies in a vital sector like telecommunications and programme like the Nigeria *Teleco Pol* Communication Satellite (NIGCOMSAT-1) of the country. This is in spite of the fact that ICT application is a pervasive phenomenon that cuts across every segment of the economy. For example chapter 2 of NITP addresses the issue of infrastructure and the policy strategy to plan, design, and configure "a scalable National Information

Infrastructure Backbone (NIIB) to achieve a minimum capacity of 2.5Gbps using combination of optical fibers, satellite communications and wireless technology". There is no gainsaying the fact that the issue of bandwidth occupies a central position in the discussion of access to the Internet. As reported by Rufai (2004), finance institutions pay as much as US$5 per month as bandwidth rent for their VSAT. One however does not need to re-invent the wheel by designing a new NIIB. One expects NITDA in the spirit of policy synergy to naturally liaise with the National Space Research and Development Agency (NASRDA) and through the National Communication Commission (NCC) to the mobile telephone service providers. Under the NIGCOMSAT, NASRDA is to create more bandwidth space for the country while the mobile telephone service providers are daily laying optic fiber cables across the country so as to expand their bandwidth and wireless connectivity.

Conclusion

The conclusion is that the present level of ICT development in the country can substantially be linked to individual and organizational initiatives as opposed to conscious efforts by government. It is also concluded that since the commencement of the current democratic dispensation, government has taken a bold step through NITP enunciation to leapfrog the country into the global membership of information society. In the absence of any evaluation study of how well or not the policy has been implemented, it suffices to say that the policy has not sufficiently shown the direction the nation is heading to in ICT development. To this extent, the policy can be said to be reactive rather than being proactive. Furthermore, in the face of policy scatter and absence of linkages in the country's policy making environment, it can be concluded that there is a need to

adequately link the ICT policy to other sectoral or technology related policies so as to reduce duplication and wastages of resources thereby fine-tuning the grey areas of the policy. It is further concluded that the law establishing NITDA is not explicit as to the true status of the Agency in regard to being a service provider or regulatory body. It is accordingly posited that NITDA should be a regulatory body for the growth and development of ICT industry in the country. Moreover the location of the Agency within the FMST has the tendency to limit its reach to influence or affect policy implementation across all other Ministries. Accordingly, the National Information Technology Development Agency should be elevated to the level of a commission under the Presidency. One cannot but assert that if these issues and all others are holistically addressed, Nigeria will have been strategically repositioned to avail itself of the many opportunities and advantages confer by ICTs adoption and utilization.

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